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ROTARY CURVATURE OF THE SPINE.

BY

A. B. JUDSON, M. D.,

NEW YORK.

Reprinted from the

New York Medical Journal

for November 1, 1902.

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ROTARY CURVATURE OF THE SPINE.

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I find myself unable to see how rotation in lateral curvature can be influenced by anteroposterior variations in the attitude of the spine, and desire to reproduce the photographs taken by O. G. Mason, of Bellevue Hospital. The object was held before the camera on the points of needles set firmly in the background. Fig. 1 shows a stick of sponge rubber, which Dr. Robert W. Lovett has suggested as an imitation of the spine. His view, based on the same experiments, is presented in the *Journal* for October 4, 1902, pp. 573-575. Mine is expressed in the following words: "In Fig. 2 there is a plain lateral curve. The heads only of the pins are seen, showing the absence of flexion, extension, and rotation. In Fig. 3 flexion is added, as is shown by the inclination of the pins, and the absence of rotation is shown by the fact that the head only of the middle pin is visible, while all the pinheads are in the middle of the curved

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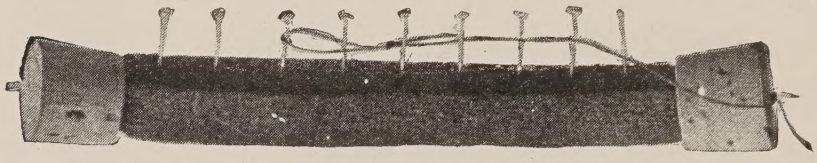
column. In Fig. 4 extension takes the place of flexion and the pinheads remain as before, with the exception of a slight deviation, due to the careless placing of the object before the camera, which has brought into view the shaft as well as the head of the middle pin."

FIG. 1.



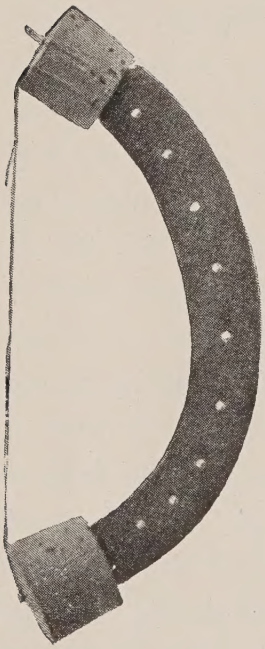


FIG. 2.

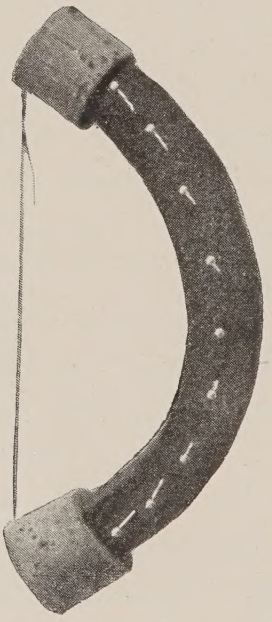


FIG. 3.

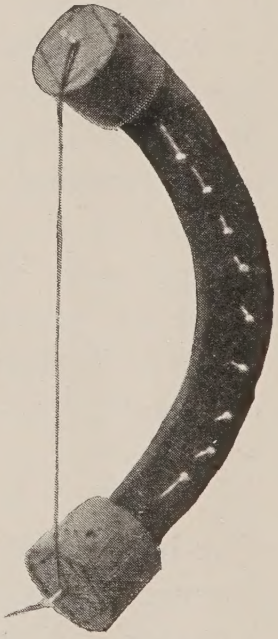


FIG. 4.

It seems that the two sets of photographs, Dr. Lovett's and mine, sustain diametrically opposite views, which reminds one of a saying of Dr. T. G. Thomas's in a discussion which took place some years ago at a stated meeting of the New York Acad-

emy of Medicine: "If there is anything more misleading than figures, it is facts." Both views cannot be correct, and each observer, of those who care to encounter interesting propositions in mechanics, will come to his own conclusions.

"In Figs. 3 and 4 the curve, at the first glance, seems to be made up of two, one lateral and the other anteroposterior, but further thought reveals it as really a simple curve, produced by a simple force, the resultant of two forces, one lateral and the other anteroposterior. Viewed thus, as a simple curve, it can no more influence rotation than any other simple curve."

If, indeed, extension impeded the usual rotation, then enforced and continued extension, or lordosis, would be the logical treatment. For many years the idea that extension, as opposed to flexion, should be employed as a therapeutic attitude has been entertained, not on the ground that it checks rotation, a theory which cannot as yet be considered as established, but because extension takes pressure from the errant bodies and puts it on the retarded processes. This would be in accordance with the correct theory of the mechanism of rotation. "A rod or flexible column cannot, of itself, rotate when curved. The spine, however, is a flexible column a part of which, made up of vertebral bodies, has wide displacement (or extra flexibility) in the cavity of the trunk, while another part, composed of processes, is prevented from displacement (or has less flexibility) from being a part of the wall. It therefore rotates, must rotate, when curved, as shown in the common preparation, Figs. 5 and 6, in which the processes are

restrained by spiral springs, while the bodies exhibit rotation."

At the risk of being classed with the laggards, I will venture the opinion that very strenuous efforts

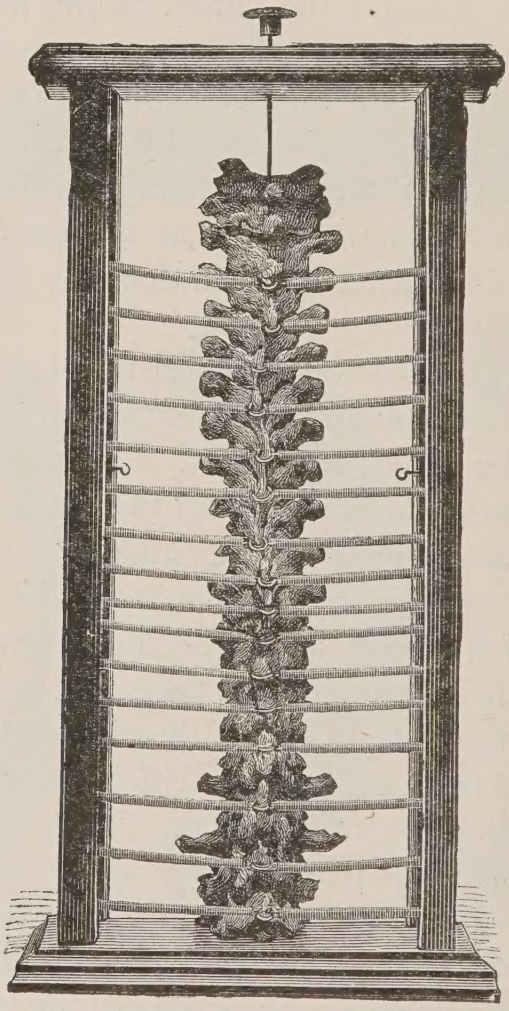


FIG. 5.

to cure this affection are unnecessary, because it is impossible to correct a severe curvature, while one that is not severe is but an unimportant departure

from symmetry, and neither variety is a menace to health and longevity. Braces conceal deformity and in some cases support a drooping figure, while a com-

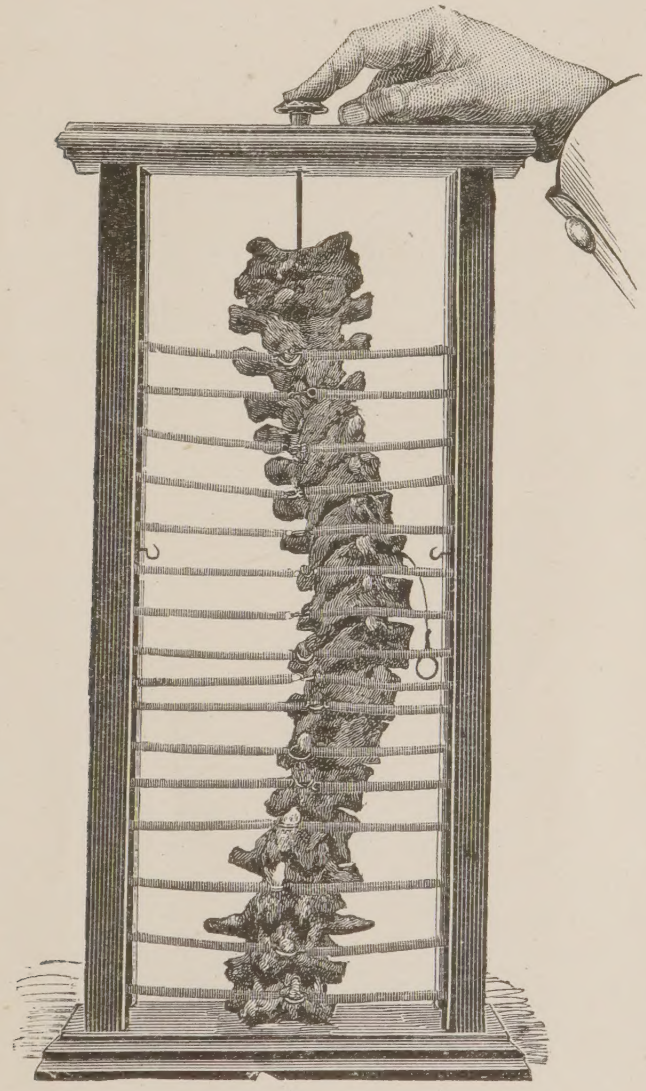


FIG. 6.

bination of general rest with special attitudes and exercises seems to furnish security against an aggravation of the trouble.

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